

## WHAT IS CLAIMED IS:

1. A fluid delivery system comprising:
  - a first syringe operable to be filled with sufficient injection fluid for at least one injection procedure;
  - a second syringe operable to be filled with sufficient injection fluid for at least one injection procedure;
  - a patient interface in removable fluid connection with the first and second syringes;
  - a fluid path in fluid connection between the first and second syringes and the patient interface, the fluid path comprising a housing member defining a first inlet, a second inlet and an outlet, the first and second syringes being in fluid connection with the respective first and second inlets of the housing member and the patient interface being in removable fluid connection with the outlet of the housing member;
  - a first check valve in fluid connection between an outlet of the first syringe and the first inlet of the housing member; and
  - a second check valve in fluid connection between an outlet of the second syringe and the second inlet of the housing member.
2. The fluid delivery system of Claim 1 wherein the housing member comprises a sealing member at least partially disposed therewithin, the sealing member being adapted to extend outward from an interior of the housing member to be at least generally flush with the outlet of the housing member to facilitate cleaning of an outward facing surface of the sealing member and being biased to close the outlet when the patient interface is removed from fluid connection with the outlet of the housing member.

3. The fluid delivery system of Claim 2 wherein the sealing member substantially prevents contaminants from entering the interior of the housing member when the patient interface is removed from fluid connection with the outlet of the housing member.

4. The fluid delivery system of Claim 2 wherein an increase of pressure within the housing member acts to improve a seal created by the sealing member when the patient interface is removed from fluid connection with the outlet of the housing member.

5. The fluid delivery system of Claim 1, further comprising a spike member in fluid connection with the first syringe, the spike member operable to be inserted into a fluid container.

6. The fluid delivery system of Claim 1, further comprising a spike member in fluid connection with the second syringe, the spike member operable to be inserted into a fluid container.

7. The fluid delivery system of Claim 1, further comprising a fluid container in fluid connection with the first syringe.

8. The fluid delivery system of Claim 1, further comprising a fluid container in fluid connection with the second syringe.

9. The fluid delivery system of Claim 1 wherein the patient interface comprises a check valve.

10. The fluid delivery system of Claim 1, further comprising an injector to which the first and second syringes are connected.

11. The fluid delivery system of Claim 1 wherein the first syringe or the second syringe is a multi-dose syringe.

12. A fluid delivery system comprising:  
an injector system;  
a first syringe connected to the injector system and operable to be filled with sufficient injection fluid for at least one injection procedure;  
a second syringe connected to the injector system and operable to be filled with sufficient injection fluid for at least one injection procedure;  
a patient interface in removable fluid connection with the first and second syringes;  
a fluid path adapted to be placed in fluid connection between the first and second syringes and the patient interface, the fluid path comprising a housing member defining a first inlet, a second inlet and an outlet, the first and second syringes being in fluid connection with the respective first and second inlets of the housing member and the patient interface being in removable fluid connection with the outlet of the housing member;  
a first check valve in fluid connection between an outlet of the first syringe and the first inlet of the housing member;

a second check valve in fluid connection between an outlet of the second syringe and the second inlet of the housing member;

a first fluid container in fluid connection with the first syringe; and

a second fluid container in fluid connection with the second syringe.

13. The fluid delivery system of Claim 12 wherein the patient interface comprises a check valve.

14. The fluid delivery system of Claim 12 wherein the housing member comprises a sealing member at least partially disposed therewithin, the sealing member being adapted to extend outward from an interior of the housing member to be at least generally flush with the outlet of the housing member to facilitate cleaning of an outward facing surface of the sealing member and being biased to close the outlet when the patient interface is removed from fluid connection with the outlet of the housing member.

15. A fluid delivery system comprising:

a first pump system operable to deliver sufficient injection fluid for at least one injection procedure;

a second pump system operable to deliver sufficient injection fluid for at least one injection procedure;

a patient interface in removable fluid connection with the first and second pump systems; and

a fluid path in fluid connection between the first and second pump systems and the patient interface, the fluid path comprising a housing member, a first check valve and a second check valve, the housing member defining a first inlet, a second inlet and an outlet, the first and second

pump systems being in fluid connection with the respective first and second inlets of the housing member and the patient interface being in removable fluid connection with the outlet of the housing member, the first check valve being in fluid connection between an outlet of the first pump system and the first inlet of the housing member, and the second check valve being in fluid connection between an outlet of the second pump system and the second inlet of the housing member.

16. The fluid delivery system of Claim 15 wherein the first pump system comprises a syringe, a peristaltic pump, a rotary pump, an in-line pump or a gear pump.

17. The fluid delivery system of Claim 15 wherein the second pump system comprises a syringe, a peristaltic pump, a rotary pump, an in-line pump or a gear pump.

18. The fluid delivery system of Claim 15 wherein the patient interface comprises a check valve.

19. The fluid delivery system of Claim 15, further comprising:

a first fluid container in fluid connection with the first pump system; and

a second fluid container in fluid connection with the second pump system.

20. The fluid delivery system of Claim 15 wherein the housing member comprises a sealing member at least partially disposed therewithin, the sealing member being adapted to extend outward from an interior of the housing member to be at least generally flush with the outlet of the housing

member to facilitate cleaning of an outward facing surface of the sealing member and being biased to close the outlet when the patient interface is removed from fluid connection with the outlet of the housing member.